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| 10/603,518 | 06/25/2003 | Albert M. David | 2-1045-032 | 3245 |
| 803 | 7590 | 01/24/2006 | EXAMINER | |
| STURM & FIX LLP 206 SIXTH AVENUE SUITE 1213 DES MOINES, IA 50309-4076 | | | PERVAN, MICHAEL | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2677 | |

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/603,518 | Applicant(s) DAVID, ALBERT M. | |
| | Examiner Michael Pervan | Art Unit 2677 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 33-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☒ Claim(s) 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/10/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on the last page "emdiments" should be "embodiments".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "preferably" in claim 30 is a relative term which renders the claim indefinite. The term "preferably" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. "Comprises a silicon rubber" has been rendered indefinite by the term "preferably".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2677

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Divigalpitiya et al (US 6,809,280) in view of Verlinden et al (US 6,287,674).

In regards to claims 1 and 11, Divigalpitiya discloses a flexible membrane for a resistive touch screen display (col. 4, lines 33-35 and 59-65; since one of the conductive layers is movable it is also flexible).

Divigalpitiya does not disclose said flexible membrane comprising a glass laminate, wherein said glass laminate consists of an ultra-thin glass layer, a polymer layer, an optical adhesive layer between said ultra-thin glass layer and said polymer layer, said optical adhesive holding said ultra-thin glass layer to said polymer layer.

Verlinden discloses said flexible membrane comprising a glass laminate (col. 3, lines 3-4; laminate contains a glass layer and is therefore a glass laminate), wherein said glass laminate consists of an ultra-thin glass layer (col. 3, lines 3-4; ultra-thin glass layer and thin borosilicate glass layer are both thin), a polymer layer (col. 5, lines 45-53; the support could be poly(ethylene terephthalate) (PET) which is a polymer), an optical adhesive (optical adhesive is being interpreted as adhesive that is transparent) layer (col. 3, lines 6-10 and col. 5, lines 62-65; since the adhesive layer has the same refractive index as the glass layer it would be transparent and therefore an optical adhesive as well) between said ultra-thin glass layer and said polymer layer, said optical adhesive holding said ultra-thin glass layer to said polymer layer (col. 3, lines 6-10).

It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden having flexible membrane comprising glass laminate to be incorporated to Divigalpitiya because as motivated by Verlinden the laminate keeps

Art Unit: 2677

glass fragments on the support in the event that the glass should break (col. 3, lines 57-65).

In regards to claims 2 and 12, Divigalpitiya does not disclose said glass layer being smaller than said polymer layer.

Verlinden discloses said glass layer being smaller than said polymer layer (col. 3, lines 45-50 and col. 5, lines 54-55; since the glass layer thickness is less than the support layer thickness the glass layer is smaller than the support layer). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden having the glass layer smaller than the polymer layer to be incorporated to Divigalpitiya because it would reduce dimensional stability (ability to retain precise shape and size) and increase flexibility (col. 3, lines 23-33; if the glass being thicker than the support increases dimensional stability then the glass being less than the support would decrease dimensional stability).

In regards to claim 3 and 13, Divigalpitiya does not disclose optical adhesive being allowed to build-up about the edges of said glass layer.

Verlinden discloses optical adhesive being allowed to build-up about the edges of said glass layer (col. 6, lines 22-30; in the case of excess adhesive, the adhesive would be squeezed out along the edges of the glass substrate and support). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden having optical adhesive being allowed to build-up about the edges of said glass layer to be incorporated to Divigalpitiya because it would make the bond between

Art Unit: 2677

the glass layer and the polymer layer stronger since the adhesive would be holding the two layers together on a total of five sides.

In regards to claims 4 and 14, Divigalpitiya does not disclose said glass layer being less than 0.5 mm thick.

Verlinden discloses said glass layer is less than 0.5 mm thick (col. 3, lines 45-50). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because its gives the glass more flexible (col. 3, lines 46-50; since the brittleness decreases with thickness, the thinner the glass the more flexible it becomes).

In regards to claims 5 and 15, Divigalpitiya does not disclose said polymer layer being comprised of polyester.

Verlinden discloses said polymer layer being comprised of polyester (col. 5, lines 45-53; the support could be PET which is a type of polyester). Since there was no benefit or advantage described in the specification for choosing polyester, the examiner believes this to be a designer's choice.

In regards to claims 6 and 16, Divigalpitiya does not disclose said polymer layer being approximately 0.175 mm thick.

Verlinden discloses said polymer layer is approximately 0.175 mm thick (col. 5, lines 54-55; since the thickness is less than 0.250 mm it is approximately 0.175 mm). Since there was no benefit or advantage described in the specification for choosing a thickness of 0.175 mm, the examiner believes this to be a designer's choice based on the required specification by the user.

Art Unit: 2677

In regards to claims 7 and 17, Divigalpitiya discloses glass layer as being transparent (col. 4, lines 59-65). Divigalpitiya does not disclose said polymer layer being transparent.

Verlinden discloses said polymer layer is transparent (col. 5, lines 62-65; since the support (polymer) layer has the same refractive index as the glass layer it would also be transparent). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because it allows the viewing of objects through the device.

In regards to claims 8 and 18, Divigalpitiya discloses glass layer as being opaque (col. 4, lines 59-65). Divigalpitiya does not disclose said polymer layer being opaque.

Verlinden discloses said polymer layer being opaque (col. 4, lines 59-65; since the support (polymer) layer has the same refractive index as the glass layer it would also be opaque). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because it allows images or graphics to be view on the device.

In regards to claims 9 and 19, Divigalpitiya does not disclose said optical adhesive being formed in a uniform thickness in the area between said glass layer and said polymer layer.

Verlinden discloses said optical adhesive being formed in a uniform thickness in the area between said glass layer and said polymer layer (col. 6, lines 22-30; by virtue of being laminated with a laminator the thickness of the optical adhesive would be

Art Unit: 2677

uniform, since laminators are designed to give even pressure along the rollers). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because

In regards to claims 10 and 20, Divigalpitiya does not disclose the formed thickness of said optical adhesive being between 0.25 and 0.05 mm.

Verlinden discloses the formed thickness of said optical adhesive being thin (col. 6, lines 22-30; since the glass substrate (layer) and the support (polymer layer) are in close contact with each other the adhesive must be thin to accomplish this). Since there is no benefit or advantage described in the specification for choosing a thickness between 0.025 and 0.05 mm, the examiner believes this to be a designer's choice.

6. Claim 21-31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Divigalpitiya et al in view of Verlinden et al in further view of Aufderheide et al (US 6,555,235) in further view of Robsky et al (US 5,838,309) in further view of Takahata et al (US 6,556,189).

In regards to claim 21, Divigalpitiya discloses a resistive touch screen display said display comprising, a flexible membrane (col. 4, lines 33-35 and 59-65; since one of the conductive layers is movable it is also flexible), a backing surface (col. 4, lines 43-65; the backing surface is the support of the conductive layer 120), a first conductive layer 110 affixed to said polyester layer (col. 4, lines 45-65), a second conductive layer 120 affixed to said backing surface (col. 4, lines 45-65) and sensors used to detect where said first conductive layer contacts said second conductive layer (col. 3, lines 1-5; since the device can measure the signal created from contact it must have sensors to

Art Unit: 2677

detect such contact), refer to rejections of claims 1 and 11. Divigalpitiya does not disclose wherein said flexible membrane consists of an ultra-thin glass layer, a polymer layer, said polymer layer being larger than said glass layer and said polymer layer extending beyond the periphery of said glass layer, a pressure sensitive adhesive affixed between the periphery of said polyester layer and said backing surface and an elastic tensioner affixed between the periphery of said polyester layer and said backing surface, said elastic tensioner being adjacent to said pressure sensitive adhesive.

Verlinden discloses wherein said flexible membrane consists of an ultra-thin glass layer (col. 3, lines 3-4; ultra-thin glass layer and thin borosilicate glass layer are both thin), a polymer layer (col. 5, lines 45-53; the support could be poly(ethylene terephthalate) (PET) which is a polymer), said polymer layer being larger than said glass layer (col. 3, lines 45-50 and col. 5, lines 54-55; since the glass layer thickness is less than the support layer thickness the glass layer is smaller than the support layer) and an optical adhesive (col. 3, lines 6-10 and col. 5, lines 62-65; since the adhesive layer has the same refractive index as the glass layer it would be transparent and therefore an optical adhesive as well) between said ultra-thin glass layer and said polymer layer, said optical adhesive holding said ultra-thin glass layer to said polymer layer (col. 3, lines 6-10). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden having flexible membrane comprising glass laminate to be incorporated to Divigalpitiya because as motivated by Verlinden the laminate keeps glass fragments on the support in the event that the glass should break (col. 3, lines 57-65). Divigalpitiya as modified does not disclose said polymer layer

Art Unit: 2677

extending beyond the periphery of said glass layer, a pressure sensitive adhesive affixed between the periphery of said polyester layer and said backing surface and an elastic tensioner affixed between the periphery of said polyester layer and said backing surface, said elastic tensioner being adjacent to said pressure sensitive adhesive.

Aufderheide discloses a pressure sensitive adhesive affixed between the periphery of said polyester layer and said backing surface (col. 4, lines 43-57). It would have been obvious at the time of invention to modify Divigalpitiya as modified with the teachings of Aufderheide because it allows for contact between the two conductive layers as well as serving as a insulator between the two conducting layers (col. 4, lines 13-16). Divigalpitiya as modified does not disclose said polymer layer extending beyond the periphery of said glass layer and an elastic tensioner affixed between the periphery of said polyester layer and said backing surface, said elastic tensioner being adjacent to said pressure sensitive adhesive.

Robsky discloses an elastic tensioner affixed between the periphery of said polyester layer and said backing surface, said elastic tensioner being adjacent to said pressure sensitive adhesive (Figure 9 and col. 4, lines 61-67; substrate 16c is the backing surface, membrane 24c is the glass laminate and peripheral compressible members 22c are the elastic tensioner). It would have been obvious at the time of invention to modify Divigalpitiya as modified with the teachings of Robsky because it prevents the first conductive layer from sagging and contacting the second conductive layer causing a false touch (col. 1, lines 16-19). Divigalpitiya as modified does not disclose said polymer layer extending beyond the periphery of said glass layer.

Takahata discloses said polymer layer extending beyond the periphery of said glass layer (col. 5, lines 39-56 and col. 7, lines 43-52; as can be seen in Figure 1, the upper film 6, which can be made of PET, is extended beyond upper electrode film 1, which can be made of glass. Therefore, the polymer layer extends past the glass layer). It would have been obvious at the time of invention to modify Divigalpitiya as modified with the teachings of Takahata because it allows for more flexibility since there is no glass on the edges to stiffen the polymer layer.

In regards to claim 22, Divigalpitiya does not disclose said glass layer being less than 0.5 mm thick.

Verlinden discloses said glass layer is less than 0.5 mm thick (col. 3, lines 45-50). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because its gives the glass more flexible (col. 3, lines 46-50; since the brittleness decreases with thickness, the thinner the glass the more flexible it becomes).

In regards to claim 23, Divigalpitiya does not disclose said polymer layer being comprised of polyester.

Verlinden discloses said polymer layer being comprised of polyester (col. 5, lines 45-53; the support could be PET which is a type of polyester). Since there was no benefit or advantage described in the specification for choosing polyester, the examiner believes this to be a designer's choice.

In regards to claim 24, Divigalpitiya does not disclose said polymer layer being approximately 0.175 mm thick.

Art Unit: 2677

Verlinden discloses said polymer layer is approximately 0.175 mm thick (col. 5, lines 54-55; since the thickness is less than 0.250 mm it is approximately 0.175 mm). Since there was no benefit or advantage described in the specification for choosing a thickness of 0.175 mm, the examiner believes this to be a designer's choice based on the required specification by the user.

In regards to claim 25, Divigalpitiya discloses glass layer as being transparent (col. 4, lines 59-65). Divigalpitiya does not disclose said polymer layer being transparent.

Verlinden discloses said polymer layer is transparent (col. 5, lines 62-65; since the support (polymer) layer has the same refractive index as the glass layer it would also be transparent). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because it allows the viewing of objects through the device.

In regards to claim 26, Divigalpitiya discloses glass layer as being opaque (col. 4, lines 59-65). Divigalpitiya does not disclose said polymer layer being opaque.

Verlinden discloses said polymer layer being opaque (col. 4, lines 59-65; since the support (polymer) layer has the same refractive index as the glass layer it would also be opaque). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because it allows images or graphics to be view on the device.

Art Unit: 2677

In regards to claim 27, Divigalpitiya does not disclose said optical adhesive being formed in a uniform thickness in the area between said glass layer and said polymer layer.

Verlinden discloses said optical adhesive being formed in a uniform thickness in the area between said glass layer and said polymer layer (col. 6, lines 22-30; by virtue of being laminated with a laminator the thickness of the optical adhesive would be uniform, since laminators are designed to give even pressure along the rollers). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because

In regards to claim 28, Divigalpitiya does not disclose the formed thickness of said optical adhesive being between 0.25 and 0.05 mm.

Verlinden discloses the formed thickness of said optical adhesive being thin (col. 6, lines 22-30; since the glass substrate (layer) and the support (polymer layer) are in close contact with each other the adhesive must be thin to accomplish this). Since there is no benefit or advantage described in the specification for choosing a thickness between 0.025 and 0.05 mm, the examiner believes this to be a designer's choice.

In regards to claim 29, Divigalpitiya does not disclose optical adhesive being allowed to build-up about the edges of said glass layer.

Verlinden discloses optical adhesive being allowed to build-up about the edges of said glass layer (col. 6, lines 22-30; in the case of excess adhesive, the adhesive would be squeezed out along the edges of the glass substrate and support). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of

Art Unit: 2677

Verlinden having optical adhesive being allowed to build-up about the edges of said glass layer to be incorporated to Divigalpitiya because it would make the bond between the glass layer and the polymer layer stronger since the adhesive would be holding the two layers together on a total of five sides.

In regards to claim 30, Divigalpitiya does not disclose said elastic tensioner preferably comprising a silicon rubber.

Robsky discloses said elastic tensioner preferably comprising a silicon rubber (col. 4, lines 61-67; silicon rubber is being interpreted as rubber). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Robsky because rubber is durable and would increase the longevity of the device since it would keep the membrane taught longer than other materials.

In regards to claim 31, Divigalpitiya does not disclose touch screen further comprising an area insulator layer between said polymer and said pressure sensitive adhesive.

Aufderheide discloses touch screen further comprising an area insulator layer between said polymer and said pressure sensitive adhesive (col. 4, lines 25-32). It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Aufderheide because it aids in insulating the two conductive layers from each other (col. 4, lines 25-32).

Allowable Subject Matter

Art Unit: 2677

7. Claim 32 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the examiner was not able to find said area insulator comprising an ultraviolet ink film.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pervan whose telephone number is (571) 272-0910. The examiner can normally be reached on Monday - Friday between 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MVP
Jan. 17, 2006

AMR A. AWAD
PRIMARY EXAMINER
